

WEST Search History

DATE: Thursday, May 24, 2007

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	<i>DB=PGPB,USPT; PLUR=YES; OP=ADJ</i>		
<input type="checkbox"/>	L13	(DSL or xDSL or DSLAM or ADSL) and L11	2
<input type="checkbox"/>	L12	(headend or head-end or (head near1 end)) and L11	1
<input type="checkbox"/>	L11	(broadcast\$6 or multicast\$6 or unicast\$6) same L9	2
<input type="checkbox"/>	L10	(headend or head-end or (head near1 end)) same L9	1
<input type="checkbox"/>	L9	L8 same L6	59
<input type="checkbox"/>	L8	L4 same L5	137
<input type="checkbox"/>	L7	L4 same L6	219
<input type="checkbox"/>	L6	((add-drop or (add near1 drop)) near1 (multiplex\$6 or mux)) or ADM\$	765362
<input type="checkbox"/>	L5	(crossconnect\$6 or cross-connect\$6 or (cross near1 connect\$6))	35564
<input type="checkbox"/>	L4	((SONET or (synchronous near1 optical near1 network)) near1 ring\$)	973
<input type="checkbox"/>	L3	(DSL or ADSL or DSLAM or xDSL) and 6992975.pn.	0
<input type="checkbox"/>	L2	6992975.pn. and (headend or head-end or (head near1 end))	0
<input type="checkbox"/>	L1	(broadcast\$6 or multicast\$6) and 6992975.pn.	1

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L13: Entry 2 of 2

File: USPT

Mar 13, 2007

DOCUMENT-IDENTIFIER: US 7191332 B1

TITLE: Digital rights management for multicasting content distribution

Description Paragraph (17):

FIG. 3 shows different end-to-end multicast scenarios for delivering content files to users. A multicast edge router/gateway 40 may be in or near the network backbone for communicating with the multicast and DRM servers (not shown) and allows a service provider to offer multicasting service to users via private line services, direct broadband access, or access from enterprise IP networks or from a lower tier ISP, for example. The use of channelized interfaces is preferred in order to reduce the complexity of the ILEC/CLEC transmission network and the ISP edge network. Different users 41 44 are shown as being connected by different types of network topologies. User 41 is connected to multicast-capable Ethernet switch 47 (e.g., in a cable network) using point-to-point over Ethernet (PPPoE) protocol 46. Switch 47 is coupled to a router 48 for communicating with multicast edge router/gateway 40. A user 42 is connected to router 48 via a multicast-enabled DSLAM device 50 using either IP or ATM protocols 51. A user 43 is connected to router 48 via a wireless LAN access point 52 using IP over DHCP or PPPoE protocols, for example. Another user 44 is connected to a router 54 via a SONET ring 55 and a T1/E1 connection. SONET ring 55 may include add-drop multiplexer/digital access cross-connect system (ADM/DACS) 56 and ADM's 57 and 58, as shown. Other users (not shown) may be receive multicast traffic via a second tier ISP 45 via a T3/E3 connection, for example.

Description Paragraph (18):

For each of these access methods over multicast capable networks (i.e., xDSL, Wireless LAN, Cable, and Ethernet), the edge router acts as an intelligent Layer 3 device which aggregates traffic from Layer 2 devices including DSLAMs, cable modem termination systems (CMTS's), wireless LAN access points, and Ethernet switches and which also passes information from the end user to the remote hosts related to identifying and accessing the encrypted file.

Description Paragraph (22):

A tunnel between hosting site 60 and auxiliary distribution point 62 via network 61 is created using selected ones of VPN-capable routers 71 75. For optimum download speed and reliability, a first tunnel may provide a frame relay (FR) connection to an FR modem 77 at auxiliary distribution point 62. Primary and backup FR tunnels may be provided. A second tunnel may include a backup DSL connection to a DSL modem 78. Yet another backup may be provided by a dialup connection from a dialup modem 80 to PSTN 63.

Description Paragraph (25):

Hosting site 90 is coupled by a switch 95 to a multicast enabled backbone 96. A multicast enabled DSLAM 97 provides multicast traffic to an end user 98 as described in the previous embodiments. For serving users who cannot receive multicast traffic, a multicast-to-unicast gateway 100 is coupled to backbone 96. Non-multicast-enabled DSLAM's 101 and 102 are connected to gateway 100 and to users 103 and 104, respectively. Gateway 100 may be comprised of a Unisphere 1400 ERX edge router available from Juniper Networks, Inc., for example, to provide a

unicast tunnel to the multicast stream from backbone 96. Alternatively, gateway 100 could be replaced with a multicast address resolution server (MARS) creating a permanent virtual circuit (PVC) to end users 103 and 104. Proposed IETF standards based on switched virtual circuit (SVC) and MARS could also be used.

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